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Furbearer Carcass Analysis and Species Status in Manitoba

Five Year Summary, 1984-1989

By Johnson, C.S. 1990

Manitoba
Natural Resources

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Furbearer carcass analysis and species status in Manitoba.
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Department of Natural Resources
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ABSTRACT

Between 1984 and 1989, 4957 carcasses of 15 species of furbearers were analyzed. Most carcasses were received from west central Manitoba. Cementum analysis, radiographs and bacula measurements were compared for reliability as aging methods. In view of the current trapping pressure, the status of all species was good, although there should be continued monitoring of lynx (*Lynx canadensis*), fisher (*Martes pennanti*), marten (*Martes americana*) and wolverine (*Gulo gulo*). The present trapping seasons do not appear to be detrimental to Manitoba's furbearer populations but may in fact be helping maintain populations of fisher and marten. It was recommended that a wolverine tagging system be implemented and habitat interrelationships be investigated for all species.

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INTRODUCTION

The outcry of anti-harvesting groups and the general public insistence on accountability for our environment and natural resources has renewed interest in close monitoring of wildlife species and their habitat for the good of society, for wildlife and the environment. In recent years the prices received for the pelts of a variety of furbearing animals has been at an all-time high (Johnson 1989a). These prices plus diminishing habitat could have severe consequences for some of the furbearing species if sound management/monitoring practices are not followed. To monitor particularly vulnerable species, a year by year index is needed.

This report is a presentation of one of these indices used in Manitoba over a five year period, 1984-85 to 1988-89. The biological age/sex data and ratios gathered here were used in conjunction with trapper questionnaires/species index results (Johnson 1988b, 1989b) and fur sales records each year to determine an estimate of the status/relative status of furbearing species in Manitoba. These results are particularly important for the highly vulnerable and exploitable species such as lynx (*Lynx canadensis*), fisher (*Martes pennanti*) and marten (*Martes americana*).

METHODS

Methods of analysis evolved with efficiency, skill and management requirements over the five year period, 1984-1989, of the research. Carcasses of all furbearing species were accepted from trappers throughout the province. Beginning in the 1984-85 trapping season the carcasses of all furbearing species, except beaver (*Castor canadensis*) and muskrat (*Ondatra zibethicus*), were obtained from many trappers and Natural

Resources personnel throughout Manitoba and the trapping season. The season usually began in mid-October and ended mid-May although most species were harvested between November and the following February (Johnson 1989a). As the annual results were analyzed it was realized that only some of the mustelid species and lynx were of great concern with the remainder having good population levels and age/sex status without fear of depletion. By 1988-89 only marten, fisher, wolverine (*Gulo gulo*), long-tailed weasel (*Mustela frenata*), lynx and wolves (*Canis lupus*) were required even though any other species were accepted and analyzed. From 1986-88 a University of Manitoba Natural Resources Institute (NRI) practicum determined the distribution of long-tailed weasels in Manitoba and as a result, carcasses of this species were actively solicited (Harvey 1988). Since that time, trappers have been encouraged to continue the donation of carcasses from any source (season closed beginning in 1988-89) thus adding slowly to the scant data base.

Each trapping season trappers were notified through contact with Fur Managers (FMs), Trapline Officers (TLOs), Natural Resources Officers (NROs) and the Manitoba Trappers' Association Newsletters as to the species of interest and collection procedures.

Carcasses were collected in the field, usually frozen, and forwarded to Central Office fur staff who were responsible for analysis. The study began using methods gleaned from literature (Friley 1949, Petrides 1950, Marshall 1951, Kuehn & Berg 1981, Jenks & Bowyer 1984) and estimated needs. Carcasses were stored frozen until time of processing. Each specimen was given a reference number and the trapper's name and address, trapline location, trap type and any other unusual observations were recorded.

The uteri of females were examined for placental scars. The head was disarticulated from the body, wrapped in cheesecloth and heated in enzyme solution (Appendix II) or heated in a pressure cooker from 30 minutes to two hours, depending on size. The preparation methods reverted back to the enzyme solution because cementum damage was occurring, especially in the small teeth, with the pressure cooker method.

Placental scars were counted where visible to the naked eye. The results are not presented here as they were very inconsistent due to the state of some specimens (dried, decomposed), the variety of species and the relative distinctiveness of the scars, the ability of the researchers (several took part in the analysis some with more skill in identifying scars than others) and the time constraints to examine a large number of specimens thoroughly impacted upon this component. Estimates of reproductive success could be made with the juvenile to adult female ratios in the samples and were calculated where applicable. However, placental scars would have added an estimate of juvenile survival rates.

The study began by experimenting with three aging methods 1) cementum analysis 2) radiographs 3) baculum dimensions. Once the flesh had softened a lower canine was removed for sectioning and aging by using cementum analysis (Stephenson 1977, Larson and Taber 1980, Kremke 1983) by Matson's Laboratory, Milltown, Montana. An upper canine was extracted, glued to poster board and radiographed at 40 kvp, 50ma for 1/10 to 1/15 sec (depending on size) . The relative width of the pulp cavity was used to determine the age category; juvenile (<1yr.) or adult (>1yr) (Kuehn and Berg 1981, 1983).

Bacula were cleaned, dried, weighed amd measured with the results

graphed to separate the respective males into juvenile and adult age classes (Wright 1947, Friley 1949, Petrides 1950, Wright and Coulter 1967) for the first three years of the study. By the third year of the study it was obvious the baculum was not providing complete results as this method could only be used for males; sometimes the baculum was lost in preparation or over-cooked rendering it useless. It was not a good estimator of age, especially for otter (*Lutra canadensis*).

A comparison of ages determined from radiographs, bacula and cementum analysis was done to determine the reliability, accuracy and cost benefit of each method. Once skill had been acquired in interpreting radiographs to place animals in adult or juvenile age classes (Rewcastle 1986a, 1986b, Johnson 1988a), cementum analysis was used for species of immediate concern only eg. lynx, marten, fisher and long-tailed weasel. Samples of otter, and mink (*Mustela vison*) were also sent to check the reliability of radiograph results.

In the 1986-87 trapping season a quota/tagging system was implemented for lynx. A condition of receiving a tag to sell the pelt was that the carcass be turned in. Lynx carcasses were tagged by NROs, FMs and TLOs. Critical information such as the trapper's name, address, license number, trapline section and number, trap type, date caught, age and sex of the animal and dried and formed pelt length, nose to base of the tail was also recorded. Carcasses were processed as described and various body measurements were also taken (Johnson 1988a). Eventually only the total length was recorded. These data are now being analyzed in comparison with ages determined through cementum analysis in an attempt discover a relationship that could be used in the field for preliminary aging. These

results were treated in depth in a separate report as this was a species of major concern and there was a great deal of data collected on it.

All information was analyzed using microcomputers and a variety of database packages. Data were compiled by trapline, trapline section and in some cases geographic or biogeographic areas.

Age/sex profiles were calculated for each species in each area of sufficient sample size.

Trappers were acknowledged for their cooperation and supplied with the biological data on their donations each year.

RESULTS

An average of 991 carcasses of 15 species were analyzed per year with a high of 1420 in 1987-88 and a low of 629 in 1985-86 (Table 1). There was a mean of 155 contributors representing an average of 27 trapline sections.

Most specimens came from west-central Manitoba (Fig. 1). There were seven sections that had donations for all five years with an additional seven sections with donations for four of the five years. The large number of northern sections that had donations for the last three years running was due to the beginning of the lynx tagging program and the Open Area southern sections due to the commencement of the long-tailed weasel project both beginning in 1986-87. This increased the number of areas that would have normally donated carcasses. Many trappers donated a few other species as long as they had to make the effort to turn in the lynx. The number of specimens received from any area was dependent upon the effort put forward by the fur staff in reminding trappers to bring in their carcasses and the effort taken to transport these items to Winnipeg (Table 2).

Table 1: Furbearer carcass analysis 1984-85 to 1988-89.

Fur Year	No. Analyzed	No. Species	No. Contributors	No.Sections
1984-85	812	15	81	18
1985-86	629	14	43	13
1986-87	1064	14	206	26
1987-88	1420	14	258	39
1988-89	1032	12	189	37
Total	4957		777	
Average	991	14	155	27

The comparison of aging methods (Table 3) indicates radiographs provide a fairly reliable age estimate except for mink. The accuracy of the estimates were dependent upon the quality of the tooth and radiograph, the skill of the reader and their interpretation.

The sampled populations varied little overall each year as to age/sex composition (Table 2). There were however some differences in individual species and sections (Appendix III), among these were fisher and marten in Cranberry Portage, Snow Lake, Cormorant, Norway House, Sherridon, Whiteshell and Duck Mountain sections. It was difficult to distinguish any patterns to the harvest data. The best situations were indicated by a greater number of juvenile males captured than females as in 1986/87 for marten in Cormorant, Sherridon and South Indian Lake, fisher in Cross Lake and Snow Lake, in 1987/88 for marten in Snow Lake, in 1988/89 for marten in Whiteshell and Duck Mountain for four of five years. The worst situations

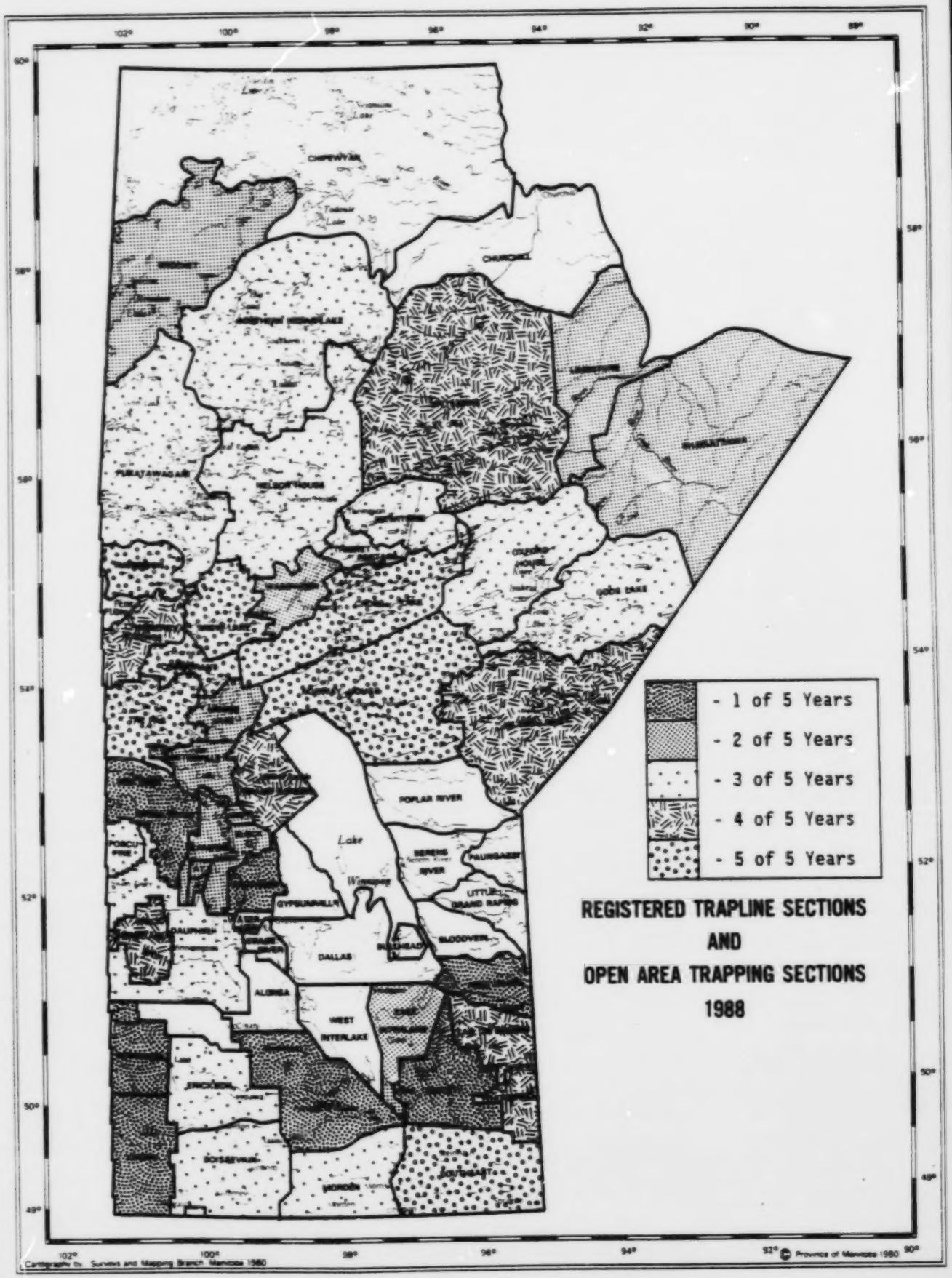

Figure 1: Furbearer carcass sampling area 1984-1989.

Table 2: Summary of selected species status 1984-89.

YEAR	SPECIES	NO.	ADULT	JUVE.	% JUV.	MALE	FEMALE	F>1.5YRS.	J:AF	M:F
1984-85	FISHER	138	92	43	66	55	80	13	3.3	.7
	LYNX	2	2	0	0	1	1			1.0
	MARTEN	179	75	101	56	121	55	11	20.1	2.2
	MINK	186	62	114	61	121	55	5	3.8	2.2
	OTTER	53	32	19	36	28	23			1.2
	WOLF	20	6	11	55	9	11			.8
	WOLVERINE	2	1	1						
1985-86	FISHER	72	20	50	70	32	30	10	5.0	1.1
	LYNX	2	2	0	0	1				11.0
	MARTEN	24	8	14	58	16	8		27.0	2.0
	MINK	387	167	201	52	191	196			1.0
	OTTER	81	45	32	40	34	47	13	2.5	.7
	WOLF	9	6	2	2	2	8			1.2
	WOLVERINE	1	1	1						
1986-87	FISHER	215	60	141	66	86	127			.7
	LYNX	184	108	34	18	71	76	16	21.0	.9
	MARTEN	330	121	147	45	225	95	51	3.0	2.4
	MINK	185	70	87	46	127	54			2.4
	OTTER	78	32	42	54	49	42	22		1.2
	WOLF	20	8	12	60	5	15		1.9	.3
	WOLVERINE	5	3	2						12.0
1987-88	FISHER	188	31	134	71	81	106	14	9.6	.8
	LYNX	203	130	33	16	86	89	26	1.3	1.0
	MARTEN	476	154	307	64	291	182	18	17.1	1.6
	MINK	276	135	125	45	161	111			1.5
	OTTER	138	64	67	49	77	59	5	13.4	1.3
	WOLF	24	6	9	38	10	13			.8
	WOLVERINE	6	3	2	33	5				15.0
1988-89	FISHER	155	44	78	50	81	65	15	5.2	1.2
	LYNX	154	73	47	30	68	54			1.3
	MARTEN	358	90	237	72	228	112	33	7.2	2.0
	MINK	171	72	80	53	98	58			1.7
	OTTER	66	40	23	35	31	35	3	7.7	.9
	WOLF	29	17	4	14	12	12			1.0
	WOLVERINE	4	1	3	75	3	1			3.0

Table 3: Percentage of ages in agreement between aging methods.

Year	Species	No. Aged	Radiograph/Tooth	Baculum/Tooth	Baculum/Radiograph
1984-85	Badger	2	100		
	Coyote	6	100		
	Red Fox	93	90		
	Fisher	133	67	93	89
	Lynx	2	100		
	Marten	177	90	94	94
	Mink	178	83	92	92
	Otter	51	90	67	78
	LT Weasel	3		100	
	Wolf	17	100		
	Wolverine	2	50		
1985-86	Arctic Fox	2	100		
	Coyote	4	100		
	Red Fox	11	100		
	Fisher	72	100	100	100
	Lynx	2	100		
	Marten	24	87	100	100
	Mink	387	67	86	87
	Otter	81	100	75	35
	Raccoon	1	100		
	Wolf	8	100		
	Wolverine	1	100		
1986-87	Fisher	100	98	87	94
	Lynx	157	100		
	Marten	218	94		
	Mink	155	84	100	90
	Otter	72	93	60	83
	Wolf	12	100		
	Wolverine	5	100	100	100
1987-88	Coyote	6	100		
	Mink	54	61		
	Otter	25	88		
1988-89	Fisher	111	99		
	Mink	30	87		
	Otter	14	100		
	Wolf	12	75		
	Wolverine	4	100		

were indicated by a greater number of adult females in the sample as in 1986/87 for fisher in Cormorant, Norway House and Whiteshell. The general population status of red fox (*Vulpes vulpes*) and coyote (*Canis latrans*), although not sampled, was indicated by the number of reports of mange in these two species. Mange was severe in the western and southwestern portions of the province. The range of the disease was from The Pas to the International boundary and as far east as Waterhen.

This contagious disease is particularly prevalent in cycles of high populations (David *et al.* 1981). The populations have remained high possibly due to peaks in prey populations (hares/small mammals) and the relatively mild winters between 1984 and 1987. The cold winter of 1988-89 may have caused the demise of many of the heavily infested animals. Beaver and muskrat were not sampled either, but beaver populations were at a high level as indicated by confirmed cases of tularaemia; prevalent at high population levels (David *et al.* 1981). The areas included Cross Lake, Wabowden and Duck Mountain.

Other incidental species, which did not have large enough samples to determine any kind of trend were badger (*Taxidea taxus*), bobcat (*Lynx rufus*), arctic fox (*Alopex lagopus*), raccoon (*Procyon lotor*), red squirrel (*Tamiasciurus hudsonicus*) and short-tailed weasel (*Mustela erminea*). Long-tailed weasel results are being compiled over the years to determine a definite range and habitat requirements. Almost all were male but this may be a function of life habits and not a good indicator of population status (Fagerstone 1987).

Mink populations were in good status in all sections in all years (Table 2). All samples had approximately 50% juveniles and greater than

1.0 M:F. Otter populations appeared stable with good M:F ratios and high numbers of juveniles harvested per adult female. The limited trapping seasons may help retain the good status of these two species. The status of the wolf population cannot be determined from the present data and the number of wolverine carcasses received were insufficient to provide adequate data for evaluation.

DISCUSSION

The status of all furbearers in Manitoba appeared to be relatively good with minor changes from year to year. The more prolific species (red fox, coyote, muskrat, beaver) need not be monitored too closely as diseases help to regulate their populations when their numbers are high. Also they are able to recover more readily from population lows and can live alongside man better than the mustelid species. Some of the other species, although in good status, (lynx, fisher, marten) still require monitoring to ensure there is balance between harvest and production. Trapping in Manitoba does not appear to have detrimental effects on the furbearer populations; trapping may in fact be aiding in maintaining some healthy populations such as fisher and marten. The earlier four to five month trapping seasons may have been detrimental to low productivity species, such as marten, fisher and particularly lynx, but the present shorter furbearer seasons and quotas (Johnson 1989) appear to be in balance with recruitment. The key to the status of many of these species for the future is their habitat requirements. It would be prudent to investigate some of these interrelationships for sustainable production and conservation.

When determining the status of fisher and marten populations the

measure of age/sex ratios and juvenile/female >1.5yrs. at any one point were not the only factors to take into consideration. Strickland and Douglas (1981) used these two measures along with the number taken per unit area to determine the allowable harvest pressure that should be taking place to maintain a population. Based on these criteria then, the Snow Lake fisher population should have died out after the 1984-85 season with constant trapping pressure, but in fact came back even stronger in 1988-89. There were some contradictory results in our data such as most of the M:F ratios being below 1.0 but the J:AF ratios being greater than 4.2, the indicated cutoff points for allowable harvest. If one calculates the number harvested per unit area all harvests except those of the Southeast in 1984-1987 are much less than the 4.5/km^2 indicated as the maximum allowable harvest. If one uses the ideas of Quick (1956) an unexploited population may show the characteristic signs of a poor population, older animals and more females caught, but a constantly harvested population will have a more or less constant characteristic of a growing population with numerous juveniles and males. One trapper quoted in Bird (1961) indicated that for marten, there were 8 to 10 year cycles until constant harvest pressure was introduced, then the cycles were minimized and there was a more or less constant population number and harvest number. This may in part explain the age/sex structures found in Duck Mountain trapping section post re-introduction. Duck Mountain was a prime example of marten management in an RTL situation as described by Quick (1956). In some of the northern sections such as Snow Lake, Cranberry Portage, Nelson House and Norway House where fisher and marten were not selected for for many years the population structures showed a decreasing or perhaps stagnant

population for a short time (Appendix III).

In the Southeast the fisher population was at all-time high levels in the early 1980's as reflected by sales records and may now be settling back into a "normal" balance. The harvest from this population should be monitored to determine if the recruitment level can be maintained at the present harvest level for marten as well as fisher. The fisher harvested throughout the province in 1988-89 indicated excellent population status with large numbers of juveniles being caught and few adult females. This was likely due to the high snowshoe hare (*Lepus americanus*) populations and a variety of other prey species throughout the province. The low snowfall in the winter of 1988-89 in northern areas allowed greater mobility (Leonard 1980) of especially juveniles seeking territories and searching for food and increased their chance of capture. Another contributing factor may be the current relatively constant harvest pressure on the species. Fisher may reflect harvest status in the same way marten did as described by Quick (1956). In the early stages of carcass collection the low male to female ratios and low juvenile to adult female ratios in some sections (Cormorant, Whiteshell, Cranberry Portage)(Appendix III) may have been more characteristic of a stagnant population than a dying population. For several years prior to the 1980's trapping seasons the fisher seasons were closed (Johnson 1989a). This may have allowed the population to stagnate, thereby providing little recruitment or turnover resulting in primarily adult females and adult males being caught. Applying these values to Strickland and Douglas'(1981) theory would result in a dying population and an indicated suspension of trapping. On the contrary if the habitat and prey base are suitable then the population may bounce back with

greater strength if limited trapping is allowed. This may be what is being experienced at the present.

The number of wolverine carcasses received were few. It was impossible to determine the status of this species without laboratory and field data. Considering the success of the lynx tagging program a similar project for wolverine could be implemented. This type of program will acquire information on the who, how and where wolverine were harvested but can also include a provision for carcass collection. Most wolverine are harvested in areas where there are TLOs and/or NRO readily available (Johnson 1989) to provide tags and collect the material. This procedure should not cause much hardship to trappers as they already undergo such an operation for lynx and the numbers of trappers and pelts involved with wolverine would be much less.

There is great difficulty in trying to manage furbearers on a province-wide basis with little or no data received from some areas. In general there appeared to be less trapping pressure on the furbearers in the more remote areas so that intense trapper management may not be required but trapline management of habitat is still important. These areas may be acting as refuges for some species, particularly lynx. More studies to determine the species specific limiting factors and effect of trapping on them are needed.

RECOMMENDATIONS

1) It is recommended that a tagging program for the sale of wolverine pelts, with the provision for donation of the carcass, be implemented to provide much needed data on the species in Manitoba.

2) An evaluation of furbearer habitat should be implemented. There is a need to determine requirements for each species, map out past, present and projected futures of the various habitats. Once they are identified work should then be directed towards conserving present endangered areas from future man-made destruction and perhaps re-establish past suitable areas.

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APPENDIX I

Scientific Names

Badger	*Taxidea taxus*
Beaver	*Castor canadensis*
Bobcat	*Lynx rufus*
Coyote	*Canis latrans*
Arctic Fox	*Alopex lagopus*
Red Fox	*Vulpes vulpes*
Fisher	*Martes pennanti*
Lynx	*Lynx canadensis*
Marten	*Martes americana*
Mink	*Mustela vison*
Muskrat	*Ondatra zibethicus*
Otter	*Lutra canadensis*
Raccoon	*Procyon lotor*
Red Squirrel	*Tamiasciurus hudsonicus*
Long-tailed Weasel	*Mustela frenata*
Short-tailed Weasel	*Mustela erminea*
Grey Wolf	*Canis lupus*
Wolverine	*Gulo gulo*

APPENDIX II

Skeletal Cleaning Procedure

This method removes muscles and tendons from bones, such that they may be kept indefinitely without decomposition. The enzyme solution used consists of:

1/2 cup Sunlight soap

1/2 cup Bioadd

1/4 tsp. EDTA

1/4 tsp. papain,

mixed per gallon of water required to immerse the skeleton.

Good results can be obtained with a temperature of 55°C, leaving the bones in the solution for approximately 30 hours. An underdone skeleton will require a knife to peel and scrape off the bone. An overdone skeleton is indicated by teeth falling out of the skull and articulating ends falling off the long bones. In the case of numerous skeletons being cleaned at once, cheese cloth may be used to keep the specimens separate. As the solution evaporates it may be necessary to replace some of the water such that the bone does not remain exposed. The finished bones may or may not turn out to be a clean white, depending on the condition of the carcass.

The time required to heat the specimens was adjusted to suit the size of the skulls being prepared.

Appendix III

Summary of the carcass collection by trapline section.

Table A: Summary of furbearer carcasses analyzed 1984-1989.

SPECIES	1984-85								1985-86								1986-87								1987-88								1988-89							
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK
BADGER	2		1																																					
BOBCAT																								1																
BEAVER	9							9	10		1	9																												
COYOTE	8	1	1		4	1		1	5		2	1		2											6		3		1	2			4						3	1
RED FOX	103	22	38		18	20			11	5	1		1	3	1		20	6	6		1	7			21			7				13	1	24		13				10	1
ARCTIC FOX									3		1			2		2																								
FISHER	138		38	17		54	26	3	72	4	26	2	16	24			218	19	64	3	41	77	9	2	188	9	62	10	22	72	12	1	182	16	88		7	13	42	3	2
LYNX	2	1			1				2	1			1				184	54	17		54	17	5	3	203	66	12	8	64	21	13	19	184	48	23		4	33	21	3	22
MARTEN	179	32	69		23	32		3	24	7	9		1	5	2		330	82	101	42	39	46	10	10	476	104	179	8	80	128	4	3	362	60	156		21	39	75	7	8
MINK	184	35	86		27	28		10	387	60	121	10	107	80	9		188	48	64	15	22	23	9	7	276	64	92	8	71	33	7	4	172	41	82		14	29	27	5	4
MUSKRAT																									2							2									
OTTER	53	19	9		13	10		2	81	17	14	3	28	18	1		78	21	28	2	11	14	2		139	36	37	4	28	30	1	3	67	19	11		1	20	13	2	1
RACCOON									1	1																							1		1					
SQUIRREL	11			8			6		2			2					4							4	9			1				8								
LT WEASEL	3			3																					43	3	10	18		4	7	1	13	2	11		5			3
BT WEASEL	96			94			2		21			20			1		13			3				10	38			32			1	2	29			24			2	1
WOLF	20		8	4		1	7	3	9	6	2				1		20	1	4		7	8			24	1	5	4	5	4	4	1	29	6	4	4	2	5	1	7
WOLVERINE	2	1	1						1	1							5		2		1			2	6	3	1	1		1			4	1	2				1	
TOTAL	812								629								1057								1427								1032							

Table B: Summary of furbearer carcasses analyzed 1984-1989 for Cross Lake trapline section.

SPECIES	1984-85								1985-86								1986-87								1987-88								1988-89							
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK
BADGER																																								
BOBCAT																																								
BEAVER	9			5				4																																
COYOTE																																								
RED FOX	4	2				2			1		1														1							1									
ARCTIC FOX																																								
FISHER	17	1	8		1	7			9		1			4			9	3	4	1	1				8	1	1		1	5			4		3			1		
LYNX																	3	1				2			25	9	1	1	9	5			15	6		1	3	5		
MARTEN	20	6	6		4	4																																		
MINK	42	3	25		2	12			11	2	6	1	2				2		1			1			6		2		4				6	1	2	2	1			
MUSKRAT																									2							2								
OTTER	10	2	3		2	3		2	8		2			3	3		1		1						3	1				1			2	1			1			
RACCOON																																								
SQUIRREL	8			3			3	2																																
LT WEASEL																																								
ST WEASEL	7		7																																					
WOLF	4	2	1					1	1	1																														
WOLVERINE																																								
TOTAL	121								26								19								45								27							

Table C: Summary of furbearer carcasses analyzed 1984-1989 for Norway House trapline section.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	MALE				FEMALE		UNK	MALE				FEMALE		UNK	MALE				FEMALE		UNK	MALE				FEMALE		UNK	MALE				FEMALE		UNK
	NO.	A	J	UNK	A	J	UNK	NO.	A	J	UNK	A	J	UNK	No.	A	J	UNK	A	J	UNK	NO.	A	J	UNK	A	J	UNK	NO.	A	J	UNK	A	J	UNK
BADGER																																			
BOBCAT																																			
BEAVER																																			
COYOTE																																			
RED FOX	2		1			1		1						1																					
ARCTIC FOX																																			
FISHER	8		5			3		6		2	3	1			38	4	3	2	9	14	3	25	1	5	1	4	14		11		10			1	
LYNX															29	6	3	4	7	3	3	12	5	1		1		2	3	28	4	7	1	7	4	
MARTEN															1			1				1		1					1		1				
MINK	6		5				1	30	2	8	11	9										30	11	7		7	3	2							
MUSKRAT																						2						2							
OTTER	4	2	1			1		4			2	2			12	2	4	1	3	2															
RACCOON																																			
SQUIRREL																																			
LT WEASEL																																			
ST WEASEL																																			
WOLF	5	2				1	2																												
WOLVERINE																																			
TOTAL	25							41							77							70							40						

Table D: Summary of furbearer carcasses analyzed 1984-1989 for Sherridon trapline section.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK
BADGER																																		
BOBCAT																																		
BEAVER																																		
COYOTE																																		
RED FOX															7	1	3			4		3						3						
ARCTIC FOX																																		
FISHER								21	9	1	2	9			28	2	10	2	14			10		4		1	5		23	2	11		1	8	
LYNX															12		3		4	4		7	3		1	2	1		5	1	2		1	1	
MARTEN								1			1				19	4	10	3	1	1		6	1	3			2		8	2	5		1		
MINK	1					1		144	6	92	4	41	34	3 4	60	4	26	7	9	12	2 1													
MUSKRAT																						2						2						
OTTER	6	2	1		1	2		16	5	3		5	3		3	1	1	1				1					1							
RACCOON																																		
SQUIRREL								1						1	1						1													
LT WEASEL																																		
ST WEASEL								3			1			1 1	4						1													
WOLF															1					1		1		1					3	1	1				1
WOLVERINE																													1				1		
TOTAL	7							186							138							30							40						

Table E: Summary of furbearer carcasses analyzed 1984-1989 for Nelson House trapline section.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	NO.	MALE A	J	UNK	FEMALE A	J	UNK	NO.	MALE A	J	UNK	FEMALE A	J	UNK	NO.	MALE A	J	UNK	FEMALE A	J	UNK	NO.	MALE A	J	UNK	FEMALE A	J	UNK	NO.	MALE A	J	UNK	FEMALE A	J	UNK
BADGER																																			
BOBCAT																																			
BEAVER																																			
COYOTE																																			
RED FOX																						2			2				4			4			
ARCTIC FOX																																			
FISHER																						33	1	9		8	10		12	2	6			4	
LYNX															6	3			2	1		4				2	1		2			1			1
MARTEN																						1		1					14	6	3	1	2		1
MINK																						15	2	5		5	2	1	13	3	3		3	4	
MUSKRAT																						2						2							
OTTER															1				1			6		2	1	2	1								
RACCOON																																			
SQUIRREL																																			
LT WEASEL																																			
ST WEASEL																																			
WOLF																						2	1				1								
WOLVERINE																						2	2												
TOTAL															73							67							48						

Table F: Summary of furbearer carcasses analyzed 1984-1989 for The Pas trapline section.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK
BADGER																																			
BOBCAT															1																				
BEAVER																																			
COYOTE	3				2		1	2		1			1		1						1														
RED FOX								2					2																						
ARCTIC FOX																																			
FISHER	3		2			1		1						1	2	1	1					5		3			2		1			1			
LYNX															2		1				1	4	2		1			1	5	4	1				
MARTEN																																			
MINK	4	1	1			2		36	8	9	1	8	9		7		3				7	6	1	1		2	2		1					1	
MUSKRAT																																			
OTTER	2				1	1		2	1				1		4	1	2		1			3		2		1			4	1	1		1	1	
RACCOON																																			
SQUIRREL	1			1																															
LT WEASEL																																			
BT WEASEL	1	1						2			2																								
WOLF	10	3		1	1	4	1	8		8					2		1		1			2						2	1			1		
WOLVERINE																																			
TOTAL	24							50							18							20							12						

Table G: Summary of furbearer carcasses analyzed 1984-1989 Snow Lake trapline section.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK
BADGER																																			
BOBCAT																					1														
BEAVER																																			
COYOTE																																			
RED FOX								1		1					3	2	1												1			1			
ARCTIC FOX																																			
FISHER	11	2	2			4	3	6		5			1		43	17	14	1	1	9	1	28	1	2	7	4	5	9	24	3	11		2	5	
LYNX															30	9	3	4	11		1 2	26	6	2	1	12	1	2 2	7	3			3	1	
MARTEN								3		1			2		13	4	8			1		10	4	6					24	6	11			7	4
MINK	51	5	29		2	11	4	86	11	19	12	12		2	4	2	2												3	2				1	
MUSKRAT																																			
OTTER	14		6		4	4		11		1		8	1	1	15	5		4	5			20	5	6	1	4	3	1	14	3	4		5	2	
RACCOON																																			
SQUIRREL								1						1																					
LT WEASEL																																			
ST WEASEL								7			7																		1						1
WOLF															2			1	1			4			1	2		1	3	1	1			1	
WOLVERINE	1		1					1	1						3		2					1	1						1		1				
TOTAL	88							86							113							89							78						

Table H: Summary of furbearer carcasses analyzed 1984-1989 for Southeast trapline section.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK
BADGER																																			
BOBCAT																																			
BEAVER																																			
COYOTE	4	1			2	1		2		1			1																						
RED FOX	48	7	17	1	9	11	1	3	3																										
ARCTIC FOX																																			
FISHER	45	8	25	1	13	20	1	6	1	1		4			4	1	1		1	1									10	1	1		3	5	
LYNX								1	1																										
MARTEN															4		2		2										1		1				
MINK	26	3	12	2	1	8		8		7			1																1				1		
MUSKRAT																																			
OTTER																																			
RACCOON																																			
SQUIRREL																																			
LT WEASEL																													1		1				
ST WEASEL	3	1	2												1						1	1			1										
WOLF	2		1			1		2	2													3		1	1		1								
WOLVERINE																																			
TOTAL	148							22							9							4							13						

Table I: Summary of furbearer carcasses analyzed 1984-1989 for Cranberry Portage trapline section.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK
BADGER																																			
BOBCAT															1																				
BEAVER																																			
COYOTE																													3			1			2
RED FOX																																			
ARCTIC FOX																													8			3		2	
FISHER															6	2	1		1	2		9			8	1	2	1							
LYNX															4	1		2		1		13	3	2	1	3	4		1	1					
MARTEN															2		2												4		2			2	
MINK								67	12	17	4	18	15	1	13	2	3	9			3	1						1	10	1	2		4	3	
MUSKRAT																																			
OTTER								29	9	8	1	8	4		12	2	3	1	2	2		17	2	8	1	2	6		9	2	1		3	3	
RACCOON																																			
SQUIRREL																																			
LT WEASEL																						1			1										
ST WEASEL								1			1																									
WOLF																																			
WOLVERINE																																			
TOTAL								91							37							41							33						

Table J: Summary of furbearer carcasses analyzed 1984-1989 for Duck Mountain trapline area.

SPECIES	1984-85								1985-86								1986-87								1987-88								1988-89							
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK
BADGER																																								
BOBCAT																								1																	
BEAVER																																								
COYOTE																																								
RED FOX																																								
ARCTIC FOX																																								
FISHER	1					1																											1				1			
LYNX	1				1																				2				1			1								
MARTEN	191	32	72	1	8	36	1	1									149	23	57		14	36		9	243	43	101	4	20	70		4	1	168	18	83		6	21		2
MINK	22	3	10		5	2	2										10	1	3	2	4				85	19	12	5	12	12		3	4	14	4	4		1	1	1	1
MUSKRAT																									2								2								
OTTER																									3		1			2			3		2			1		
RACCOON																																									
SQUIRREL																									5							5								
LT WEASEL	3			3													4			3			1		10	2	6			2			7	1	4	2		1		
ST WEASEL	66	7	55	2			2										1							1	6			6					6			6				
WOLF																	1					1			3		2				1		3	1	1		1			
WOLVERINE																																								
TOTAL	244																165								329								262							

Table K: Summary of furbearer carcasses analyzed 1984-1989 for Cormorant trapline section.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	NO.	MALE A	J	UNK	FEMALE A	J	UNK	NO.	MALE A	J	UNK	FEMALE A	J	UNK	NO.	MALE A	J	UNK	FEMALE A	J	UNK	NO.	MALE A	J	UNK	FEMALE A	J	UNK	NO.	MALE A	J	UNK	FEMALE A	J	UNK
BADGER																																			
BOBCAT																																			
BEAVER								1													1														
COYOTE														1																					
RED FOX	1		1					2	1				1																1						1
ARCTIC FOX																													1					1	
FISHER	1				1			8	3			1	4		10	1	3		2	3	1		8	1	5		2		6	1	3	1		1	
LYNX																																			
MARTEN	1	1						20	8	10		2	3		38	10	10		9	11	1		8	2	2	1	3		9	4			1	4	
MINK								26	7	6		7	3	1															3			3			
MUSKRAT																													5		4			1	
OTTER	2	1			1			11	3	2	2	2	2		6	2	3			1			10	3	4		2	4	2			1	1		
RACCOON																																			
SQUIRREL																																			
LT WEASEL																																			
ST WEASEL																																			
WOLF								1						1									9		9										
WOLVERINE	1		1																																
TOTAL	6							69							54							40							28	1	1				

Table L: Summary of furbearer carcasses analyzed 1984-1989 for Whiteshell trapline section.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK
BADGER																																			
BOBCAT																																			
BEAVER																																			
COYOTE																						6		3		1	2								
RED FOX	24	3	8		1	12									2	1	1					8			1			7	10			4			6
ARCTIC FOX																																			
FISHER	29		2	7	3	11	2								50	4	13	8	21	2	2	22	1	12		1	8		23		9		2	11	
LYNX	1	1													4	2				2		1						1							
MARTEN															29		6	18			1	14		7	2		3		32	2	20		1	9	
MINK	19	2	8	3		2									36	7	14		4		1	13	4	3		5	1		29	13	7	4	1		2	1
MUSKRAT																																			
OTTER	12	6			2	4									12	5	5		1	1		14	5	2	1	4	2		16	6	1	1	2	5	1
RACCOON																													1		1				
SQUIRREL	1			1																		1						1							
LT WEASEL																																			
ST WEASEL	6	3	3																			1			1				1			1			
WOLF	1						1								2			1				1					1		3			1			2
WOLVERINE																																			
TOTAL	85														134							81							115						

Table M: Summary of furbearer carcasses analyzed 1984-1989 Porcupine trapline section.

SPECIES	1984-85 NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	1985-86 NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	1986-87 NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	1987-88 NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	1988-89 NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK
BADGER																																								
BOBCAT																																								
BEAVER																																								
COYOTE																																								
RED FOX																																								
ARCTIC FOX																																								
FISHER	1		1																					1					1										
LYNX																																								
MARTEN	6	2	2		2																			11	2	6			3			28	14	8		3	2		1
MINK	6		2			4																		18	3	10		2	1			4	1	1		2			
MUSKRAT																																								
OTTER																								1				1				1		1					
RACCOON																																1		1					
SQUIRREL	3						3																																
LT WEASEL																																								
ST WEASEL	10			9	1																			7			7					1						1	
WOLF																								2			1	1				4		1	1		2		
WOLVERINE																																								
TOTAL	26																							40								39							

Table N: Summary of furbearer carcasses analyzed 1984-1989 for assorted traplines.

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
		MALE			FEMALE		UNK		MALE			FEMALE		UNK		MALE			FEMALE		UNK		MALE			FEMALE		UNK		MALE			FEMALE		UNK
	NO.	A	J	UNK	A	J	UNK	NO.	A	J	UNK	A	J	UNK	NO.	A	J	UNK	A	J	UNK	NO.	A	J	UNK	A	J	UNK	NO.	A	J	UNK	A	J	UNK
BOISSEVAIN																																			
Red Fox	1					1																													
Lynx (Bobcat)															1			1																	
Mink	3	2				1																													
Raccoon	2	2																																	
LT Weasel																						1			1										
BROCHET																																			
Fisher																																			
Lynx																						2			2				2			1		1	
Marten																						1	1												
Otter																						14	8		1		3	2	12			7		1		3
Wolf																						1	1												
CAMPERDUCK																													1						1
Lynx															1	1													1	1					
DALLAS																																			
Fisher								1						1																					
DAUPHIN																																			
Raccoon	2		1	1																															
LT Weasel																						9	1	2	4			2							
DELTA																																			
LT Weasel																						4			3			1							
EAST INTERLAKE																																			
Fisher																						1				1									
EASTERVILLE																																			
Lynx																						1	1												
ERICKSON																																			
Raccoon	1		1																																
LT Weasel																						10			7			3							
FLIN FLON																																			
Fisher															3		1		1	1															
Otter															2	1	1																		
Wolf															1						1														
GRAND RAPIDS																																			
Fisher	2		1			1																													
Lynx								1					1																6		1		2	2	1
Marten																						1	1						2	1			1		
Mink	2		2																										3	1	4				
GODS LAKE																																			
Lynx																						3		1		1	1		9	3	2		4		
Mink															2		1		1																

Table N cont'd

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK
HOLE RIVER																																			
Coyote																													1					1	
Lynx																													1						1
Otter																						1	1												
ISLAND LAKE																																			
Fisher								2		1			1		4		1	1	2			1				1									
Lynx															6	4	1			1		6	2			3	1		7						7
Marten															4		2		1	1		14	6	3		3	2								
Mink								1		1												1				1									
Wolverine															1	1																			
LAC DU BONNET																																			
Fisher															7		4		1	2		8	1	2		1	3	1							
Red Fox															1			1				2						1 1	1			1			
Lynx															1				1																
Marten															3		2				1	18	3	9			6		3		1		2		
Mink								2	1	1					1		1					5	1	1		1	1	1	8	5	1	1			1
Otter								1					1									4	2	1		1			3	1			1		
ST Weasel																						2			2				1			1			
LIMESTONE																																			
Marten																													2					2	
Mink																													1		1				
MOOSE LAKE																																			
Fisher															1				1			2					1	1							
Lynx																						3	1				1	1							
Marten																						20	8	8	1		9	1							
Mink																						10	2	6		1		1							
Squirrel																						1						1							
ST Weasel																						7			6			1							
MORDEN																																			
Badger	2	1	1																																
Coyote	1		1																																
Fisher								1		1																									
Red Fox	20	5	11			4																													
LT Weasel																													1		1				
METLEY																																			
Fisher																						4	1	1		1	1								
Lynx																						1				1									
Marten																						1					1								
Mink																						2		1				1							
OXFORD HOUSE																																			
Fisher																													1			1			
Lynx															8	2			6			1	1						8	2			4	4	1
Marten															1						1														
Mink																													4		1		1	1	1

Table N cont'd

SPECIES	1984-85							1985-86							1986-87							1987-88							1988-89						
		MALE			FEMALE			UNK		MALE			FEMALE			UNK		MALE			FEMALE			UNK		MALE			FEMALE			UNK		MALE			FEMALE			UNK
	NO.	A	J	UNK	A	J	UNK		NO.	A	J	UNK	A	J	UNK		NO.	A	J	UNK	A	J	UNK		NO.	A	J	UNK	A	J	UNK		NO.	A	J	UNK	A	J	UNK	
PIKWITONEI																																						
Lynx																																						
Mink																	3	2			1				4	3			2	1										
Wolf																									1				1										
																																	1	1					
PUKATAWAGAN																																						
Lynx																																						
Marten																	32	14	6		7			5	50	17	2	1	14	3		4	7	8			1			7
																									1	1													
RED DEER-SHOAL RIVER																																						
Fisher																																						
Marten																																	1				1		
ST Weasel																																	1		1				
Wolf																																	1			1			
																																	2	1			1		
ROSSBURN																																						
LT Weasel																									8		1	4		1		2							
SHAMATTAWA																																						
Lynx																																						
Marten																	1				1																		
Mink																									1				1										
Otter																									1			1											
Wolverine																									1		1												
																									1		1												
SKOWNAN																																						
Lynx																	1	1																					
SOUTH INDIAN LAKE																																						
Fisher																	2		2																				
Lynx																	5	2		3																			
Marten																	81	44	8	3	19	1	4		15	7	1		8					4		1		2	1
Mink																	14	11	1	1	3																		
SPLIT LAKE																																						
Arctic Fox																																						
Lynx																	1						1																
Marten																	4	1			3													3	2	1				
Mink																	1		1																				
Muskrat																	4	1	2			1																	
Otter	1	1															1						1																
ST Weasel																																						
																	1			1																			
THICKET PORTAGE																																						
Fisher																									3		1		1	1									
Red Fox																									2		2												
Lynx																	1				1				1	1								3	1			1	
Marten																									1	1													
Mink																									1					1				3		1		1	
Wolf																									1	1								1	1				

Table H cont'd

SPECIES	1984-85								1985-86								1986-87							
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK
THOMPSON AREA																								
Fisher									4	1						3								
Arctic Fox									2					2										
Mink									10		6		2	2										
ST Weasel									1			1												
VIRDEN																								
LT Weasel																								
ST Weasel																								
WABOWDEN																								
Coyote																								
Fisher																								
Red Fox																								
Lynx																								
Marten																								
Mink																								
Otter																								
ST Weasel																								
Wolf																								
WATERHEN																								
Fisher																								
Marten																								
Mink	6	1	2		2			2																
ST Weasel																								
Wolf																								

SPECIES	1987-88								1988-89							
	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK	NO.	MALE A	MALE J	MALE UNK	FEMALE A	FEMALE J	FEMALE UNK	UNK
THOMPSON AREA																
Fisher																
Arctic Fox																
Mink																
ST Weasel																
VIRDEN																
LT Weasel									1		1					
ST Weasel									1			1				
WABOWDEN																
Coyote									1						1	
Fisher									8		8			3		
Red Fox									1			1				
Lynx									5	1	2			1		1
Marten									10		3			9		
Mink									16		8		2	6		2
Otter									1					1		
ST Weasel									2			2				
Wolf									1		1					
WATERHEN																
Fisher									2	1			1			
Marten									4	2		1	1			
Mink	6	1	1	1	1	1	1		3		2		1			
ST Weasel	1							1								
Wolf									1	1						

APPENDIX IV
Summary of species status by trapline section

Table A: Summary of selected species status for Norway House trapline section.

YEAR	SPECIES	NO.	ADULT	JUVE.	% JUV.	MALE	FEMALE	F>1.5YRS.	J:AF	M:F
1984-85	FISHER	8	5	3	38	5	3			1.6
	LYNX									
	MARTEN									
	MINK	6		5	83	5				5.0
	OTTER	4	2	2	50	3	1			3.0
	WOLF	5	2	1	20	2	1			2.0
	WOLVERINE									
1985-86	FISHER	6	3	3	50	2	4	1	3.0	.5
	LYNX									
	MARTEN									
	MINK	30	13	17	57	10	20			.5
	OTTER	4	2	2	50		4			
	WOLF									
	WOLVERINE									
1986-87	FISHER	35	13	17	50	9	26	2	8.5	.4
	LYNX	29	13	6	21	13	13			1.0
	MARTEN	1	1			1				
	MINK									
	OTTER	12	5	6	50	7	5	2	3.0	1.4
	WOLF									
	WOLVERINE									
1987-88	FISHER	25	5	19	76	7	18	3	6.3	.4
	LYNX	12	6	1	8	6	3			2.0
	MARTEN	1		1		1				
	MINK	30	18	10	33	18	12			1.5
	OTTER	19	8	11	58	10	11			.9
	WOLF									
	WOLVERINE									
1988-89	FISHER	11	2	8	73	10	1			10.0
	LYNX	28	13	15	54	12	12			1.0
	MARTEN	1		1	1					
	MINK									
	OTTER									
	WOLF									
	WOLVERINE									

Table B: Summary of selected species status for Sherridon trapline section.

YEAR	SPECIES	NO.	ADULT	JUVE.	% JUV.	MALE	FEMALE	F>1.5YRS.	J:AF	M:F
1984-85	FISHER									
	LYNX									
	MARTEN									
	MINK	1		1			1			
	OTTER	6	3	3	50	3	3			1.0
	WOLF									
	WOLVERINE									
1985-86	FISHER	21	11	10	48	10	11			.9
	LYNX									
	MARTEN	1	1				1			
	MINK	144	41	86	60	62	78			.8
	OTTER	16	10	6	38	8	8			1.0
	WOLF									
	WOLVERINE									
1986-87	FISHER	28	4	24	85	12	16			.8
	LYNX	12	4	7	58	3	8	2	3.5	.4
	MARTEN	19	5	11	58	17	2			8.5
	MINK	60	12	38	63	37	22			1.7
	OTTER	3	1	1	33	3				
	WOLF	1	1				1			
	WOLVERINE									
1987-88	FISHER	10	1	9	90	4	6			.7
	LYNX	7	5	1	83	4	3			1.3
	MARTEN	6	1	5	83	4	2			2.0
	MINK									
	OTTER	1		1			1			
	WOLF	1		1		1				
	WOLVERINE									
1988-89	FISHER	23	3	20	87	13	9	3	6.7	1.4
	LYNX	5	2	3	60	3	2			1.5
	MARTEN	8	3	5	63	7	1			7.0
	MINK									
	OTTER									
	WOLF	3	2	1	33	1	2			.5
	WOLVERINE	1		1			1			

Table C: Summary of selected species status for Snow Lake trapline section.

YEAR	SPECIES	NO.	ADULT	JUVE.	% JUV.	MALE	FEMALE	F>1.5YRS.	J:AF	M:F
1984-85	FISHER	11	6	5	45	4	7	3	1.7	.6
	LYNX									
	MARTEN									
	MINK	51	7	16	31	34	13			2.6
	OTTER	14	4	10	71	6	8	3	3.3	.8
	WOLF									
	WOLVERINE	1		1						
1985-86	FISHER	6		6	100	5	1			5.0
	LYNX									
	MARTEN	3	1	2	67	1	2			.5
	MINK	56	23	31	55	30	24			1.3
	OTTER	11	2	1	9	9	2	1	1.0	4.5
	WOLF									
	WOLVERINE	1	1		1					
1986-87	FISHER	43	17	15	34	32	10			3.2
	LYNX	30	20	3	10	16	12			1.3
	MARTEN	13	4	9	69	12	1			1.2
	MINK	4	2	2	50	4				4.0
	OTTER	15	10	5	33	6	9			.7
	WOLF	2		2	100	1	1			1.0
	WOLVERINE	3		2	67	2				2.0
1987-88	FISHER	28	5	7	25	10	18	3	2.3	.6
	LYNX	26	18	4	15	9	15	3	1.3	.6
	MARTEN	10	4	6	60	10				10.0
	MINK									
	OTTER	20	9	9	45	12	7			1.7
	WOLF	4	2	1	25	1	2			.5
	WOLVERINE	1	1			1				
1988-89	FISHER	23	3	20	87	13	9	3	6.7	1.4
	LYNX	5	2	3	60	3	2			1.5
	MARTEN	8	3	5	63	7	1	1	5.0	7.0
	MINK									
	OTTER									
	WOLF	3	2	1	33	1	2			.5
	WOLVERINE	4	1	3	75	3	1			3.0

Table D: Summary of selected species status for Cranberry Portage trapline section.

YEAR	SPECIES	NO.	ADULT	JUVE.	% JUV.	MALE	FEMALE	F>1.5YRS.	J:AF	M:F
1984-85	FISHER									
	LYNX									
	MARTEN									
	MINK									
	OTTER									
	WOLF									
	WOLVERINE									
1985-86	FISHER									
	LYNX									
	MARTEN									
	MINK	67	30	32	48	33	36			.9
	OTTER	29	17	11	38	15	14			1.1
	WOLF									
	WOLVERINE									
1986-87	FISHER	6	0	3	50	3	3	0		1.0
	LYNX	4	1	1	25	3	1			3.0
	MARTEN	2		2	100	2				
	MINK	13	2	3	23	10	3			3.2
	OTTER	12	4	7	58	8	4	2	3.5	2.0
	WOLF									
	WOLVERINE									
1987-88	FISHER	9	2	6	67	6	3	1	6.0	2.0
	LYNX	13	6	6	46	6	7	3	2.0	.9
	MARTEN	2	1	1	50	1	1			1.0
	MINK	1								
	OTTER	17	4	11	65	8	8			1.0
	WOLF									
	WOLVERINE									
1988-89	FISHER	5		4	80	2	3			1.6
	LYNX	1	1		100	1				
	MARTEN	3		3	100	1	2			.5
	MINK	10	5	5	50	3	7			.4
	OTTER	9	5	4	44	3	6			.5
	WOLF									
	WOLVERINE									

Table E: Summary of selected species status for Duck Mountain trapline section.

YEAR	SPECIES	NO.	ADULT	JUVE.	% JUV.	MALE	FEMALE	F>1.5YRS.	J:AF	M:F
1984-85	FISHER									
	LYNX									
	MARTEN	151	40	108	71	105	45	7	15.4	2.3
	MINK	22	8	12	55	13	9			1.4
	OTTER									
	WOLF									
	WOLVERINE									
1985-86	FISHER									
	LYNX									
	MARTEN									
	MINK									
	OTTER									
	WOLF									
	WOLVERINE									
1986-87	FISHER									
	LYNX									
	MARTEN	149	37	93	62	80	50	8	6.6	1.6
	MINK	10	5	3	30	6	4			1.5
	OTTER									
	WOLF	1		1			1			
	WOLVERINE									
1987-88	FISHER									
	LYNX	2	1				1			
	MARTEN	243	63	171	70	148	94	10	17.1	1.6
	MINK	55	27	24	25	27	27			1.0
	OTTER	2	1	1	50	1	1			1.0
	WOLF	3		2		2	1			2.0
	WOLVERINE									
1988-89	FISHER									
	LYNX									
	MARTEN	168	43	125	74	107	64	14	8.9	1.8
	MINK	14	6	6	50	9	5	1		1.8
	OTTER	2	1	1	50	1	1			3.0
	WOLF	3	2	1	67	3	1			3.0
	WOLVERINE									

Table F: Summary of selected species status for Cormorant trapline section.

YEAR	SPECIES	NO.	ADULT	JUVE.	% JUV.	MALE	FEMALE	F>1.5YRS.	J:AF	M:F
1984-85	FISHER	1				1				
	LYNX									
	MARTEN	1				1				
	MINK									
	OTTER	2	1			2				
	WOLF									
	WOLVERINE	1		1		1				
1985-86	FISHER	8	4	4	50	3	5			.6
	LYNX									
	MARTEN	20	7	12	60	15	5		12.0	3.0
	MINK	26	14	11	42	13	12			1.1
	OTTER	11	5	4	36	7	4			1.8
	WOLF	1								
	WOLVERINE									
1986-87	FISHER	10	3	6	60	4	5			.7
	LYNX									
	MARTEN	10	2	6	60	7	3			2.3
	MINK									
	OTTER	6	2	4	67	5	1			5.0
	WOLF									
	WOLVERINE									
1987-88	FISHER	3	1	2	67	2	1			2.0
	LYNX	8	5	2	25	5	3			1.7
	MARTEN	38	16	21	55	20	18	6	3.5	1.1
	MINK									
	OTTER	6	2	4	67	5	1			1.5
	WOLF									
	WOLVERINE									
1988-89	FISHER	6	1	4	67	5	1	1	4.0	5.0
	LYNX	9	5	4	44	4	5			.8
	MARTEN	3		3	100	3				
	MINK	5		5	100	4	1			4.0
	OTTER	2	1	1	50		2			.5
	WOLF									
	WOLVERINE	1		1		1				

Table G: Summary of selected species status for Whiteshell trapline section.

YEAR	SPECIES	NO.	ADULT	JUVE.	% JUV.	MALE	FEMALE	F>1.5YRS.	J:AF	M:F
1984-85	FISHER	25	5	18	72	9	16	1	5.0	.6
	LYNX	1	1			1				
	MARTEN									
	MINK	15	2	10	67	13	2			7.5
	OTTER	12	8	4	33	6	6	1	4.0	1.0
	WOLF	1		1			1			
	WOLVERINE									
1985-86	FISHER									
	LYNX									
	MARTEN									
	MINK									
	OTTER									
	WOLF									
	WOLVERINE									
1986-87	FISHER	50	25	15	30	25	23			1.1
	LYNX	4	2	2	100	2	2			1.0
	MARTEN	29		7	24	24	5			4.8
	MINK	26	11	14	54	21	4			5.3
	OTTER	12	6	5	42	10	2			5.0
	WOLF	2	1							
	WOLVERINE									
1987-88	FISHER	22	2	20	91	13	9	1	20.0	1.4
	LYNX									
	MARTEN	14		12	86	9	5			1.8
	MINK	13	9	4	69	7	6	2		1.2
	OTTER	14	9	4	28	8	6			1.3
	WOLF	1	1				1			
	WOLVERINE									
1988-89	FISHER	23	2	20	87	9	13	2	10.0	.7
	LYNX									
	MARTEN	32	3	26	81	22	10	1	26.0	2.2
	MINK	29	15	9	31	25	3	2		8.3
	OTTER	16	8	6	38	8	8	3		1.0
	WOLF	2	2		50	1				
	WOLVERINE									